

Two masses are connected by a light string passing over a light frictionless pulley.

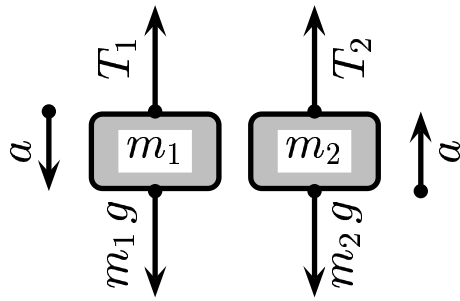
See figure.  $m_2 > m_1$ .

How much net potential energy of the system is released as the mass  $m_2$  is dropped by a height  $\frac{h}{2}$ .

A)  $U = m_2 g \frac{h}{2}$ .

B)  $U = (m_2 - m_1) g \frac{h}{2}$ .

C)  $U = m_1 g \frac{h}{2}$ .



By inspection with a drop of  $m_2$  by the amount of  $\frac{h}{2}$ ,  $m_1$  is raised by

$$\frac{h}{2}.$$

The net potential energy release is  $U = (m_2 - m_1) g \frac{h}{2}$ .

Answer **B**.

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